

Create Your Own

by Chad A. Fien

What is the secret to growing pheasants in California? What do public and private land managers need to understand and do in order to grow more pheasants? How can your duck club play a role in revitalizing the local pheasant population? Well, we looked into these questions and feel we have a few suggestions and answers.

The production value of upland habitat throughout the state generally has not lived up to its potential due to several reasons which I will not go into here, but is evidenced by the dwindling populations of pheasants and some other upland-dependent species. This is of great concern to wildlife managers, and we've been looking for answers.

Grizzly Island Wildlife Area, located in the heart of the Suisun Marsh was the site of a pheasant management and research project from the fall of 2000 until the fall of 2003 to address some of these questions and concerns. I was lucky enough to be the lead biologist on this project.

Let me just start by saying the habitat needs of pheasants in California differ from the needs of pheasants elsewhere in the country, most notably the upper Midwest, or "pheasant country." Pheasants can be managed on small parcels of land and you don't need to manage across thousands of acres in order to have a successful pheasant population. Pheasants here in California also have the luxury of a much milder climate and don't have a problem over-wintering; there's plenty of food and adequate thermal cover available all winter long. Some agricultural areas with cleaner farming practices may be an exception to this, and there is no doubt that cleaner farming has eliminated many of our pheasants, but we will save the vanishing "California agricultural pheasant" for a latter discussion.

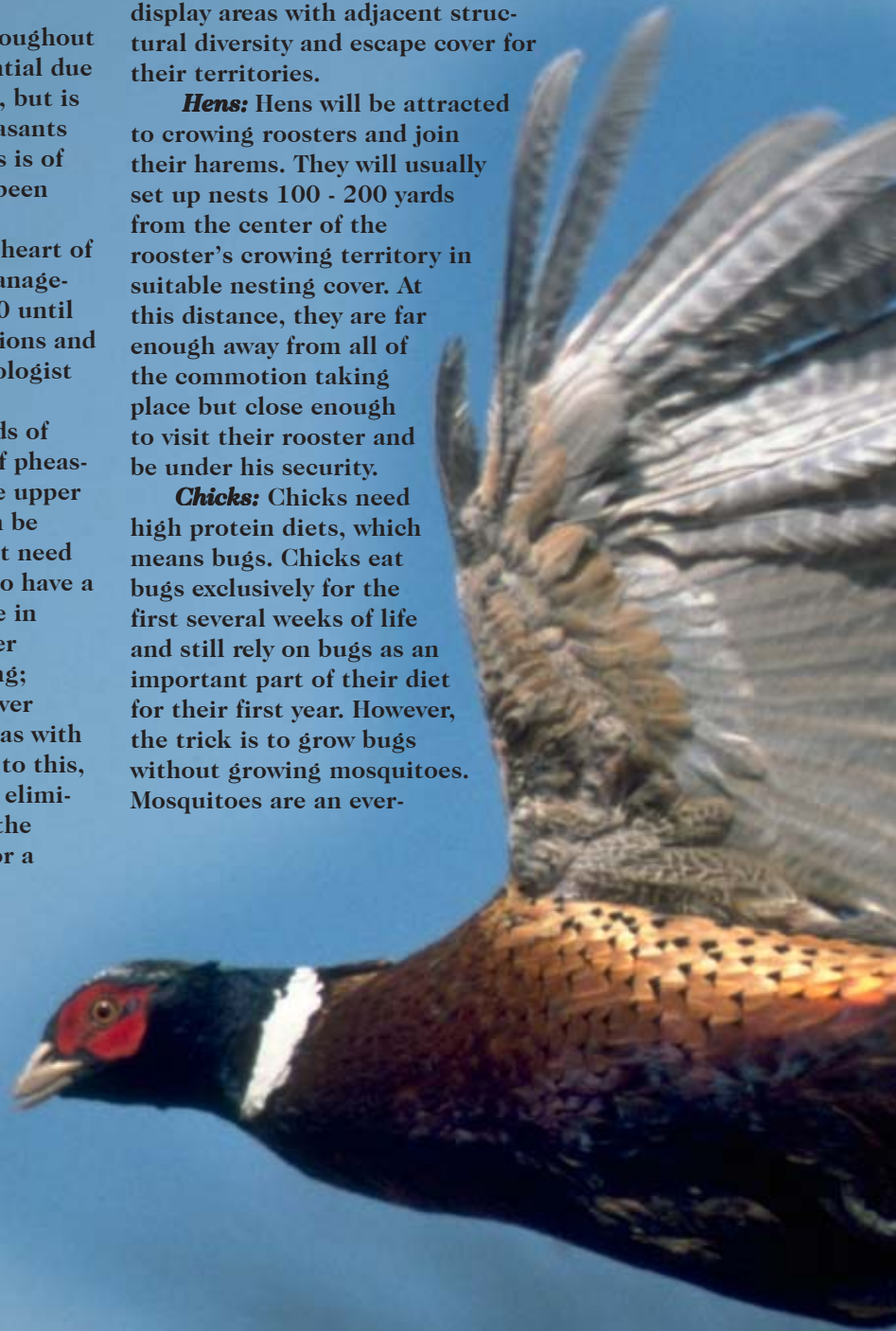
In order to understand what land managers need to do, we need to begin with understanding some basic pheasant biology.

Basic Pheasant Biology

Roosters: Roosters establish crowing territories in early spring to attract hens. Roosters look for open display areas with adjacent structural diversity and escape cover for their territories.

Hens: Hens will be attracted to crowing roosters and join their harems. They will usually set up nests 100 - 200 yards from the center of the rooster's crowing territory in suitable nesting cover. At this distance, they are far enough away from all of the commotion taking place but close enough to visit their rooster and be under his security.

Chicks: Chicks need high protein diets, which means bugs. Chicks eat bugs exclusively for the first several weeks of life and still rely on bugs as an important part of their diet for their first year. However, the trick is to grow bugs without growing mosquitoes. Mosquitoes are an ever-



Flurry of Pheasants

growing concern these days, and being able to manage an area for bugs without growing mosquitoes can be a bit tricky, but we managed to find a way.

Research

We tested a new management strategy on an experimental area which was termed a Diversified Upland Habitat Unit, or more affectionately known as a DUHU. We also had a comparison area which started out with a similar population size and baseline habitat.

To make a long story short, the DUHU pheasants responded to our management with very high production rates, brood survival, and harvest; while at the same time, the comparison area dwindled in production, brood survival, and harvest (much like the rest of California during the same time frame).

Pheasants are a short-lived boom or bust species and can quickly respond very well to management. This DUHU management strategy isn't intended to help the boom years get much better (because Mother Nature is already taking care of water management). But through DUHU management, we aim to replicate boom year conditions well enough to help keep the bust years from being so miserable, or possibly even make them as good as Mother Nature's boom years.

So what's in a DUHU that pheasants like and how do you manage for it?

Land Management

Roosters: We created areas for crowing territories by simply discing small holes or meandering strips. These techniques work better than straight strips because if neigh-

boring roosters can't see each other, they won't fight as much or expend as much energy defending their territories. Crowing territories are easy to create if your area does not already have these criteria in the natural landscape or if you want to entice roosters into a given area. Now, you can't expect to draw roosters from miles around, but you can fine tune where you want these roosters to be and display. My suggestion would be near the center of your DUHU in order to keep the hens (and ultimately the chicks) as nearby that location as possible.

Hens: Hens are relatively easy to accommodate. They need some nesting cover within short proximity to a rooster's crowing territory. Pheasants are very successful nesters by nature and don't need much more than some areas of high ground with dense vegetation.

Chicks: This is where California managers need to focus a bit more energy, time, and effort. This is also where you throw out all the hard and fast rules and management becomes an art adapted to your local conditions. And by its very nature, this is where I see more people fail or at least have problems. The brood habitat areas have moist, humid micro-climates with canopy cover overhead, yet are open enough at ground level to facilitate chick foraging. What you need to target in these areas are broadleaves, not grasses or wetland plants less productive of bugs. This can be accomplished by the timing of your water drawdown and irrigations. It's important to note however, that the goal is not accomplished by just growing broadleaves. It is true that broadleaves are the target vegetation because their structure can produce more bugs, but only if the right moisture level is maintained in the surface soil underneath the broadleaves to promote and maintain a bloom of invertebrates. We created the brood habitat in a linear fashion between the rooster crowing territories and the nesting habitat, and again on the outer edge of the nesting habitat. The thought behind this placement is 1) that in the clutch-laying period or when the hen takes nest breaks, she



will cross or feed in these brood strips so that their bug abundance will imprint on her and she will know where to take her brood when they hatch, or 2) that if we more or less surround the nesting area, she will have to take her brood through these brood strips regardless if she intended or not. The purpose of a long, linear strip is so that this brood habitat can cross, and be part of, as many hen home ranges as possible.

Timing and Details of Earth Moving, Discing, and Water

All earth moving and discing should be completed in late summer/early fall, after the nesting season and before the first rains come. The only earth moving necessary is for the brood habitat strips, and is only needed during initial setup and as needed every few years for refurbishment. (It is important to note that we are not suggesting the planting of any vegetation in the brood strips; but rather simply managing for the broad-leaved "weeds" that naturally occur there.)

The earth moving consists of creating a swale, borrow-ditch or v-ditch and building up a small berm (6-12 inches) on each side of it. The ideal situation would be to have a ditch or swale that can hold water year round to maintain a mosquito fish population while also supplying water for pheasants to drink during the hot summer. Again, ideally, you would want a "bench" (15-20 feet) on both sides of your swale, and surrounded by the berm to contain and control the water, but this is not always possible; in those instances, a bench on one side will suffice. With either option, you should slope the benches slightly (2-6 inches) from the berm side back to the swale, so that irrigation water drains back, to help improve your ability to "flash" irrigate and to essentially eliminate trapped water and potential mosquito production.



Discing is required annually as maintenance and must be accomplished in order to set back plant succession and thatch buildup. This is required only in the brood habitat strips and for the display strips in the rooster crowing territories.

As for the water, there are two cycles to know about: 1) winter flooding, and 2) spring/summer irrigations. This is where the most problems can occur. Winter flooding is pretty straight forward and requires flooding the brood habitat strips to the maximum height possible (to the top of the berms). This begins in mid to late December or when you first see grass beginning to germinate. You will want to hold that water until late February/early March and then let the level come back down into your swale. This timing will get you past the grass germination, and just before the broadleaf plants begin.

If water isn't available for winter flooding, an herbicide treatment about mid February, to kill off all new plant growth (but especially grasses) may be the best alternative.

Now pay attention to this next section and know your capabilities, because without being able to accomplish the spring/summer irrigations effectively, there's no sense in spending any time, effort, or money on creating a DUHU. This is where you will need to have somebody in close proximity to your management area that can check these brood habitat strips on a daily or near daily basis. When the surface of the soil begins to dry out in the brood habitat strips (usually about 4-6 weeks after you pulled your water off from your winter flooding) you will want to begin irrigating. When you irrigate, you want to put water just over the top of the benches until it reaches the base of the berm and then immediately bring the water back down into your ditch or swale bottoms. These flash irrigations usually take less than a day from the time you begin the irrigation until the time you drop the water back down into the swale bottom or ditch (this may vary a little depending on how many acres you need to flood and how fast you can get the water in, but holding the water any longer could change or kill your vegetation composition or make the area unavailable for the broods for which you are trying to manage). This irrigation process should continue until at least mid June (preferably mid July).

But leave as much water in your swale bottoms or ditches as long as possible, to provide drinking water through those hot, late summer months.

So if you have the capabilities and desire, there is a wonderful reward at the end of the line. We had a tenfold increase in the number of birds we flushed in our DUHU during the course of our evaluation, and you can do the same. To date, there are over 50 DUHUs on public and private lands throughout California and Oregon, and together we are making a flurry of pheasants.